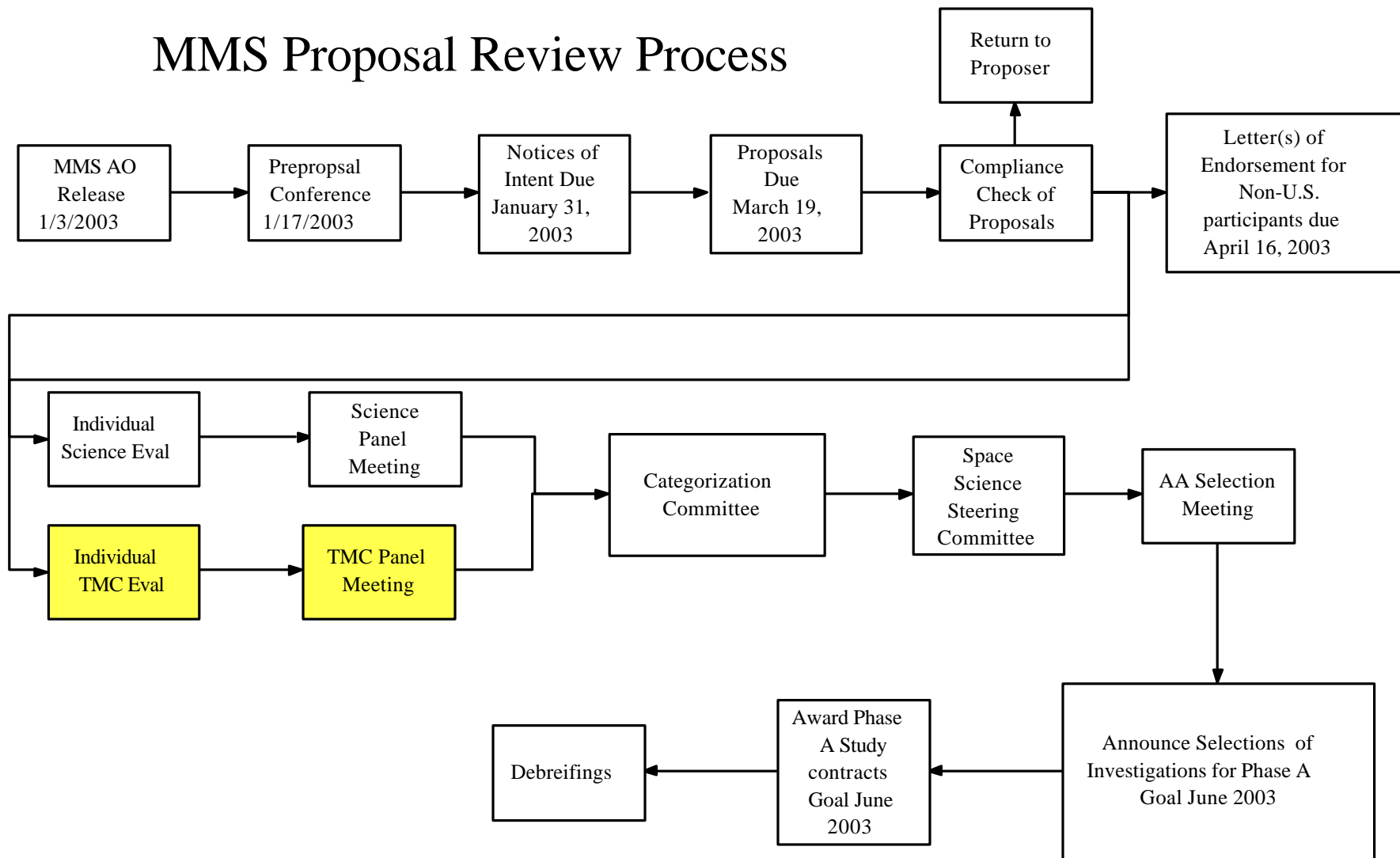


# **Technical, Management, Cost (TMC) Evaluation of MMS Proposals**

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January 17, 2003

# MMS Proposal Review Process



## TMC Evaluation of MMS AO Proposals

- What is TMC? How does it affect proposal evaluation?
  - Technical, Management, and Cost (TMC) Panel will evaluate the third criteria in section 7.1
    - “Feasibility focused on management of overall effort, qualifications of proposal team personnel and institution(s) to carry through to completion (in particular, the ability to produce at least four flight instrument suites), and cost realism and reasonableness.”
  - One TMC grade will be provided for each proposal.

## TMC Evaluation of MMS AO Proposals

- The TMC evaluation is to determine, for each proposed suite of instruments, the level of risk of implementing the investigation, as proposed, on time and within cost.
- TMC grades are **Low Risk, Medium Risk, and High Risk.**
  - **Low Risk:** No problems exist that cannot be normally overcome within the time and cost proposed. "Envelope adequate"
  - **Medium Risk:** Problems exist, but are not sufficiently bad such that they cannot be overcome with good management and engineering. "Envelope tight"
  - **High Risk:** Major problems and insufficient resources exist to overcome the problems. "Does not fit within the Envelope"
- **Envelope:** Resources available to handle known and unknown development problems that occur. Includes schedule and funding reserves; descope options; and fallback plans.

## TMC Evaluation Scope

- The degree to which the investigation can be accomplished within the spacecraft technical and operations constraints identified in section 5.1 of the AO.
- The proposers understanding and planned use of the processes, products, and activities required to accomplish the development, integration, test, and operation of the proposed instruments.
  - Appendix B section C.2.a last paragraph: “.. *The proposal shall address any impacts in order to produce multiple copies of flight hardware, including but not limited to, the areas of facilities, work force, schedule, manufacturability, validation, and verification.*”
- The relationship between the work and project schedule, as well as the adequacy of the reserves in the schedule.
  - Section 1.4.1 of the AO paragraph 7: “*In general, schedule reserve must be approximately four weeks per year for Phases C and D.*”
- Assess the methods and rationale used to develop the estimated cost, and strategy for reserves recommendation and usage.
- Effectiveness of the proposed implementing organization, including roles and experience of partners and the commitments of partners and contributors.
- Competence of the management team and management plan.
- Degree of support (logistics, facilities, etc.) offered by the proposing institution to ensure that the investigation can be completed satisfactorily.

## TMC Evaluation Scope

- Investigations proposing new technology must describe qualification plans and/or technology backup plans to ensure success.
- Adequate schedule reserves must be identified to allow the qualification test and backup plans to be implemented within the total proposed cost and within schedule limits.
- The TMC evaluation will include an assessment of the potential for delivering the flight instrumentation to NASA Goddard Space Flight Center according to the schedule contained in Table 5.1.6 of the AO and discussed in section 5.1.
- Proposals that include technologies with no flight heritage must include a detailed, credible plan for demonstrating how these technologies will reach a Technological Readiness Level of 5 or better by the end of Phase A and TRL 6 or better by the end of Phase B. (Required in section 5.2.3 of the AO)

# Cost Evaluation

- Focus of cost analysis is to validate the proposers estimate.
- What is the Cost Risk of the Proposal?
  - Low Risk - There is a low cost risk that investigation cannot be implemented for the cost proposed.
  - Medium Risk - There is a medium risk that investigation cannot be implemented for the cost proposed.
  - High Cost Risk- There is a high risk that investigation cannot be implemented for the cost proposed.
- Initial cost analysis based on Proposals (consistency checks, completeness, basis of estimate, contributions, full cost accounting, reserve levels and management, etc.)
- Cost Realism: Reported based on Models, Analogies, Heritage. Everyone is responsible for Cost Realism evaluation, not just Cost Team.
- Several independent cost models used to support cost analysis.
- Cost threats, risks, and risk mitigation analysis developed and discussed.
- All information from the entire Evaluation Process provides final assessment.
- AO Section 1.4.1 paragraph 7: *"As a guideline, a proposal must provide a cost reserve of 20% for Phase C and D and 10% for Phase E. "*

## TMC Evaluation

- Who are TMC evaluators?
  - Best (non-conflicted) consultant, CS, contractor, and other Government personnel available to support the review.
  - Peer in the areas of expertise they evaluate.
- A TMC Evaluators perspective on TMCO
  - [http://explorer.larc.nasa.gov/explorer/expws3-12-02/TMCO\\_PROCESS.ppt](http://explorer.larc.nasa.gov/explorer/expws3-12-02/TMCO_PROCESS.ppt)
  - Or <http://explorer.larc.nasa.gov/explorer/expws3-12-02.html> and select TMCO Process in PDF or PPT